

## Notes on *Caesalpinia* subg. *Mezoneuron* (Leguminosae: Caesalpinioideae) in Australia

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### Summary

Pedley, Les (1997). Notes on *Caesalpinia* subg. *Mezoneuron* (Leguminosae: Caesalpinioideae) in Australia. *Austrobaileya* 5(1): 97–102. *Caesalpinia erythrocarpa* and *C. traceyi*, both from tropical Queensland, are described as new. *C. nitens* is a new combination based on *Pterolobium nitens* Benth. A key to the six species of the subgenus in Australia is provided.

Key words: *Caesalpinia*, *Caesalpinia erythrocarpa*, *Caesalpinia traceyi*, *Caesalpinia nitens*, *Pterolobium nitens*, *Mezoneuron*.

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### Introduction

Whether *Mezoneuron* Desf. should be treated as a distinct genus or included in *Caesalpinia* L. is open to question. The two are distinguished mainly by differences of the pod. Species of *Mezoneuron* have pods that are indehiscent, strongly flattened, not or scarcely thickened with a wide wing along the dorsal suture (Brenan 1963). Because of similarities in foliar and floral characters Hattink (1974) treated *Mezoneuron* and *Caesalpinia* as congeneric making a number of new combinations. Vidal & Hul Thol (1976) considered *Mezoneuron* to be a subgenus of *Caesalpinia* but did not effect the transfer. This was left to Herendeen & Zarucchi (1990) who formally treated it as *Caesalpinia* subg. *Mezoneuron* (Desf.) Vidal ex Herend & Zarucchi. They transferred two African species from *Mezoneuron* to *Caesalpinia*. Verdcourt (1979) and Lock (1989), however, had maintained the genus *Mezoneuron*. After a phylogenetic study of *Caesalpinia* sens. lat. Lewis & Schrire (1995) suggested that *Mezoneuron* and other proposed segregates of *Caesalpinia* might well be treated as distinct genera.

Recognition of narrowly circumscribed genera would be in keeping with recent trends in legume systematics (with the curious exception of the Bauhiniineae). However, treatments of caesalpinoid genera are currently being prepared for the *Flora of Australia* and since the results of Lewis & Schrire's ongoing studies are not likely to be available for some time, *Mezoneuron* is treated here as a subgenus of *Caesalpinia*.

The subgenus in Australia is represented by six species, though additional material may indicate that the recognition of five species, one consisting of two subspecies, is more realistic. All are sprawling shrubs or prickly climbers that often flower in the canopy of rainforest trees. Fertile specimens are therefore difficult to collect and some species are poorly represented in herbaria. Nevertheless material available is sufficient for description of previously unrecognised species to be drawn up.

**Key to species**

1. Ovary and developing pods pubescent; leaflets markedly discolorous, 14–24 mm × 10–16 mm, 1.3–1.7 times longer than wide . . . . . **C. erythrocarpa**  
 Ovary and developing pods glabrous; leaflets discolorous or not, often smaller and more elongate . . . . . 2
2. Pinnae 6–11 pairs with 10–22 leaflets per pinna . . . . . 3  
 Pinnae (1-)2–8 pairs with 4–14 (rarely 16) leaflets per pinna . . . . . 4
3. Standard 3.5–4.3 mm long, the claw 1.5 mm long inrolled at top with tuft of hairs in the tube; pod 3–4 cm long, c. 2.5 cm wide . . . . . **C. traceyi**  
 Standard 7–8 mm long, the claw 3–4 mm long prolonged into a bilobed to dentate ligule c. 1 mm long; pod 6–15 cm long, 2–4 cm wide . . . . . **C. hymenocarpa**
4. Leaflets 9–12 mm × 4.5–6.5 mm; flowers small, mature buds 4–5 mm long; pods to 3 cm wide . . . . . **C. subtropica**  
 Leaflets 10–15(-30) mm × 5–15(-20) mm; flowers larger, mature buds 5–6 mm long; pods (where known) 3.5–5 cm wide . . . . . 5
5. Pinnae 2–4(-5) pairs; leaflets (2-)4–10 per pinna, glabrous or almost so, veins apparent beneath, shining above, margins incurved . . . . . **C. nitens**  
 Pinnae (3-)4–8(-9); leaflets 10–14(-16) per pinna, sparsely appressed pubescent beneath, veins not apparent, not shining above . . . . . **C. scortechinii**

**Caesalpinia erythrocarpa** Pedley, **sp. nov.**  
 affinis *C. scortechinii* (F.Muell.) Hattink  
 a qua foliis plerumque minus elongatis  
 plerumque pilis minutis appressis infra  
 sine pilis longis patentibus in venis  
 obtectis paucioribus in quoque pinna,  
 ovario pubescenti, leguminibus nervis  
 tenuibus ornatis differt. **Typus:**  
 Queensland. Cook District: Rocky River  
 c. 13°50'S, 143°25'E, 6 September 1973,  
*B. Hyland* 6812 (holo: BRI; iso K, QRS).

*C. scortechinii* auct. non (F.Muell.) Hattink;  
 Hattink, Reinwardtia 9:52 (1974); Ding  
 Hou, Fl. Malesiana ser.1. 12(2): 552  
 (1996).

Large scrambling vine, prickles along stems and leaf-rachises; branchlets with moderately dense crisped hairs, glabrescent. Leaves opposite or subopposite; axis 15–20 cm long (including petiole 3–4 cm) with fulvous crisped hairs, becoming glabrous, hairs persisting on secondary axes; pinnae (4-)6 pairs, axis 4–5 cm long; leaflets alternate, 6–10(-14) in all, obovate

to oblong (occasionally almost orbicular), rounded, truncate or sometimes slightly emarginate at apex, (14-)16–20(-24) mm long, 10–14(-16) mm wide, 1.3–1.7 times longer than wide, markedly discolorous when dry, glabrous above, sparse minute appressed hairs beneath. Flowers in racemes forming terminal panicles, branches opposite, up to 25 cm long with moderately dense fulvous hairs, bracts early deciduous, pedicels 3(-5) mm long. Flowers: sepals, with moderately dense fulvous hairs, the longest c. 7 mm long, the rest c. 6 mm long, all c. 3.3 mm wide; corolla with standard 5 mm long, 4 mm wide, the rest c. 6 mm × 4 mm, all clawed at the base, the standard with a prominent flange above the claw; staminal filaments c. 5 mm long with long hairs (c. 0.5 mm long) in lower part; ovary felty hairy; style glabrous, stigma narrowly funnel-shaped. Pod 1-or 2 - seeded, (3-)4.5–5 cm long, 2.5–3 cm wide, the wing 4–6 mm wide, shining with finely reticulate nervature, scattered appressed hairs when young. Fig. 1

**Selected specimens:** Papua New Guinea. Lake Davumbu, Middle Fly River, Aug 1936, *Brass* 7498 (BRI). Queensland. COOK DISTRICT. Claudie River, 20°43' 143°17', Dec 1994, *Hyland* 21263V (BRI, QRS); Claudie River between Portland Roads and Iron Range, Oct 1968, *Webb & Tracey* 8546 (BRI); Archer River, Jun 1948, *Brass* 19746 (BRI); Stewart River, near Port Stewart, Nov 1965, *Pedley* 1888 (BRI).

**Distribution and habitat:** Scrambling over trees in riverine rainforest on the eastern side of Cape York Peninsula between about 12½° and 14° latitude, and in southern New Guinea.

**Notes:** Hattink (1974) who adopted a rather wide concept of species generally, considered *C. scortechinii* ranged from southern Queensland to New Guinea, though he noted that *Brass* 19746 (cited above) might represent a distinct species. This proves to be the case: *C. scortechinii* has more elongate leaflets and smaller flowers and pods and is confined to south-eastern Queensland and north-eastern New South Wales.

**Etymology:** The specific epithet is derived from Greek *erythros*, red and *carpos*, fruit; both Brass and Hyland noted that immature pods of the species are red.

**Caesalpinia traceyi** Pedley, sp. nov. notabilis propter margines unguis petali posterioris (vexilli) valde involutis in parte supera tubum paene clausum pilis brunneis plus minusve plenum formantes, a *C. scortechinii* (F.Muell.) Hattink pinnis pluribus plerumque foliolis pluribus differt. **Typus:** Queensland. COOK DISTRICT: Kuranda, 16°49'S, 145°38'E, 7 November 1958, *L.S. Smith* 10448 (holo: BRI; iso K).

Large scrambling vine, prickles on stems and leaf rachises; branchlets with sparse fulvous hairs, glabrescent. Leaves usually alternate; axis 16–35 cm long (including petiole 3–6 cm), with fulvous crisped hairs, often patchy often glabrescent, hairs usually persisting on secondary axes; pinnae 7–11 pairs, (2.5–) 4–7 cm long; leaflets alternate (12–) 16–22 per pinna, oblong, rounded or occasionally truncate or emarginate at the apex, 8–19 mm long, 3.5–9 mm wide, 1.7–2.7 times longer than wide, glabrous above, sparsely appressed

pubescent or occasionally glabrous beneath. Flowers in racemes forming terminal panicles, branches ± opposite to c. 12 cm long, rachis with fulvous hairs, bracts c. 2 mm long, early deciduous, pedicels 2–3 mm long. Flowers yellow; longest sepal keeled, c. 5 mm long, 1.5–2 mm wide, the rest rounded, punctulate, 3–4 mm long c. 1.6 mm wide; standard petal 3.5–4.3 mm long with claw c. 1.5 mm long, margins of claw strongly inrolled enclosing a tuft of brown matted hairs, remaining petals 4–4.5 mm long, 2–2.5 mm wide; stamens 4–5.2 mm long, filaments with long tangled hairs in the lower half, anthers glabrous; pistil glabrous. Pods membranous, 3.5–4 cm long, c. 2.5 cm wide including wing c. 4 mm wide, glabrous, finely reticulately nerved. Fig. 1

**Selected specimens:** Queensland. COOK DISTRICT. between Cairns and Herberton, in 1896, *Wild* AQ 228397 (BRI); S.F.R. 315, c. 1.5 km on Black Mountain road, Jun 1955, *K.J. White* 1021 (BRI); Copperlode Falls Dam, Cairns, Dec 1972 *Birch* 41 (BRI).

**Distribution and habitat:** Scrambling over trees in rainforest in the Cairns-Cape Tribulation area with an isolated occurrence (*Webb & Tracey* 9967, sterile) near Coen, within the range of *C. erythrocarpa*.

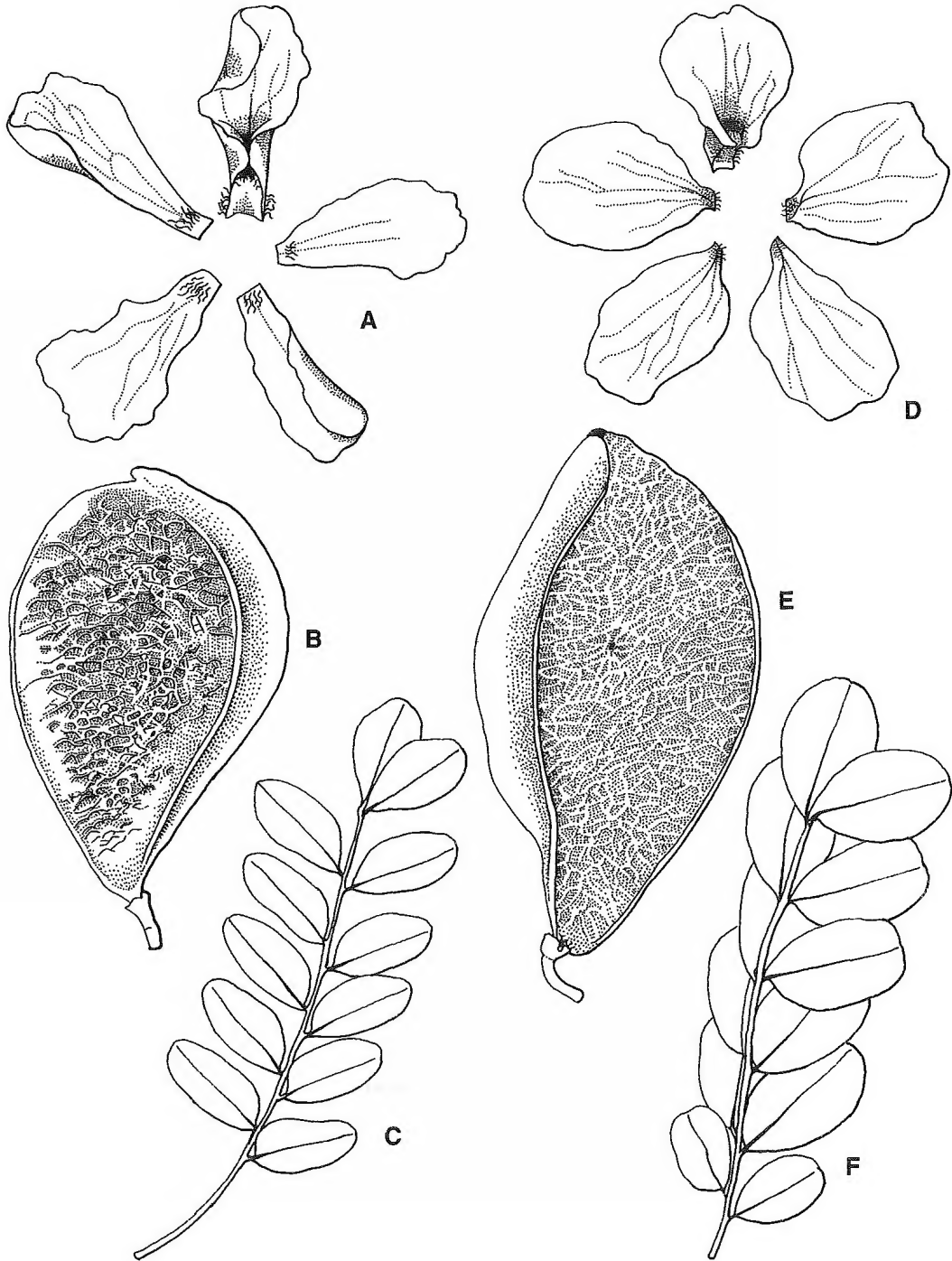
**Notes:** Related to *C. scortechinii* but has more pinnae and usually more leaflets. The standard petal is most unusual: the upper part of the claw is inrolled to such an extent as to form an almost closed tube more or less filled with brown hair.

**Etymology:** The species is named in honour of Mr J.G. Tracey of Yungaburra, Queensland who has made significant contributions to the scientific study of the rainforests of Australia and, in more recent years, has worked assiduously in helping to preserve them.

**Caesalpinia nitens** (F.Muell. ex Benth.) Pedley, comb. nov.

*Pterolobium nitens* F.Muell. ex Benth., Fl. Austral. 2:279 (1864). **Type:** Queensland. Mt Mueller, near Edgcombe Bay, 12 December 1863, *J. Dallachy* s.n. (holo: MEL).

Vine or sprawling shrub, branchlets with



**Fig. 1.** *Caesalpinia traceyi*. A. petals (standard at top) x 6. B. pod x 1.5. C. pinna x 1. *Caesalpinia erythrocarpa*. D. petals (standard at top) x 4. E. pod x 1.5. F. pinna x 1. A from Smith 10448 (BRI); B, C from Birch 00041 (BRI); D, F from Hyland 6812 (BRI); E from Hyland 6401 (BRI).



small rather rusty dense crisped hairs, glabrescent, scattered dark-tipped prickles; old stems with corky flanges (similar to those of *C. subtropica*). Leaves: axis 4–9 cm long (including petiole 6–20 mm) with indumentum similar to that of branches; pinnae 2–4(-5) pairs with slender, straight or recurved prickles at base of each and usually one or two between them, 5–35 mm long with (2-)4–10 leaflets, alternate to opposite, broadly obovate, rounded to cuneate and slightly emarginate at apex, (7-)10–24(-27) mm long, (5-)7–13(-17) mm wide, (1.2-)1.4–1.7(-2.2) times longer than wide, glabrous or with a few scattered hairs on upper surface when young, margins slightly recurved, shining, particularly above, coarsely anastomosing veins prominent beneath. Flowers in racemes, forming terminal panicles, axis with indumentum of stem, bracts c. 4 mm long pedicels c. 2 mm long. Flowers: sepals densely pubescent at base, the largest 7.5 mm long, 3 mm wide, the remainder 4.5–5 mm long, 2.5–2.8 mm wide; petals clawed, standard 5.5 mm long, 3 mm wide, a minute projecting ridge at top of claw, the remaining petals 5.5–6 mm long, 3–3.7 mm wide; staminal filaments densely hairy in lower half, c. 6 mm long, anthers 1.2 mm long, glabrous; ovary glabrous with one ovule, style straight, stigma narrow funnel-shaped, fringed. Pod not seen.

**Specimens examined:** Queensland. (all BRI). Scawfell Is., 50 km ENE of Mackay, 20°53'S'E, 149°37'S'E, Nov 1986, *Batianoff* 6189 & *Thompson*; 9.5 km SW of Ubobo, 24°29'S'E, 151°16'S'E, Nov 1995, *Thompson* CAL 358 & *Price*; State Forest 645, N of Gin Gin, 24°51'S'E, 151°58'S'E, Feb 1995, *Bean* 8376; Mt Moororeerai, 26°17'S'E, 152°32'S'E, Oct 1993, *Bean* 6709; c 25 km NW of Didcot, 25°19'S'E, 151°41'S'E, Aug 1995, *Sparshott* KMS 597 & *Turpin*.

**Distribution and habitat:** Scrambling over vegetation in rainforest in rather dry situations sometimes with unusual associates such as *Archidendropsis thozetiana* and *Barklya syringifolia*, from about Proserpine to the vicinity of Nambour. The type locality, Mt Mueller, is the present-day Mt Millar (c. 20°33' 148°43') near Bloomsbury (Blake 1955) near the northern limit of the range of the species.

**Notes:** Closely related to *C. scortechinii* which occurs in wetter rainforests and which may prove to be only subspecifically distinct. *C. nitens* has leaves with fewer pinnae, fewer leaflets per pinna and, most obviously, by its virtually glabrous leaflets with shining upper surfaces and anastomosing veins on the lower surfaces. The corky flanges on the stem suggests a relationship with *C. subtropica* but that species has smaller leaflets not more than 12 mm long and rarely more than 6 mm wide.

Bentham (1864) described *Mezoneuron brachycarpum* (= *Caesalpinia subtropica*) and *Pterolobium nitens* on successive pages, the latter from a single collection. Though Mueller (1876) listed two additional specimens of *P. nitens* which were again cited by Bailey (1900), no specimens of the species were recognised at BRI. Vidal & Hul Thol (1974) excluded *P. nitens* from *Pterolobium* and referred it to *Caesalpinia brachycarpa* (Benth.) Hattink. In transferring *M. brachycarpum* to *Caesalpinia*, however, Hattink (1974) made no reference to *P. nitens*. When proposing *C. subtropica* as a *nomen novum* for *C. brachycarpa* (Pedley, 1977) I was not aware of Vidal & Hul Thol's reference to Hattink's name. Examination of type material of *Pterolobium nitens* showed it to be different from both *C. brachycarpa* and *C. scortechinii*.

### Acknowledgment

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